UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,349	01/30/2007	Kug-Jin Yun	51876P1077	2142

8791   7590   05/25/2010
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ART UNIT	PAPER NUMBER
2466	

MAIL DATE	DELIVERY MODE
05/25/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/579,349	YUN ET AL.
	Examiner	Art Unit	
	ANDREW OH	2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _01 February 2010_.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-5 and 7-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-5 and 7-15_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20100517

1.   DETAILED ACTION

2.   *Response to Arguments*

3.   Specification

4.   Applicant's arguments, see p10, filed 2010/02/01, with respect to objection to the

specification have been fully considered and are persuasive. The objection to the

specification has been withdrawn.

5.   Allowable Subject Matter

6.   The indicated allowability of claim 6, 9 is withdrawn in view of new rationale

involving Konrad (US-5974444), Ro (US-20020150123), Serbanescu (US-

20030162595).

7.   *Claim Rejections - 35 USC § 112*

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

9.   The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

10.   Claim 1, 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

11.   Claim 1 recites the limitation "the multimedia data frame" in In.23. There is

insufficient antecedent basis for this limitation in the claim.

12.　　Claim 10 recites the limitation "the multimedia data frame" in ln.22.　There is

insufficient antecedent basis for this limitation in the claim.

13.　　Claim Rejections - 35 USC § 103

14.　　The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

15.　　A patent may not be obtained though the invention is not identically disclosed or described as set forth
in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
are such that the subject matter as a whole would have been obvious at the time the invention was made to a
person having ordinary skill in the art to which said subject matter pertains.　Patentability shall not be negatived
by the manner in which the invention was made.

16.　　Claim 1, 7, 9, 10, 15 rejected under 35 U.S.C. 103(a) as being unpatentable

over Konrad (US-5974444), and further in view of Shibata (US-5402418), Tremblay

(US-6275213), Wittek (US-5963302), Rowan (US-5341229), Serbanescu (US-

20030162595), Ro (US-20020150123).

17.　　As to claim 1, 7, 9, 10, 15: Konrad teaches a system for providing actual-feeling

multimedia data, comprising: a video/audio data generating means for generating

video/audio data by receiving multimedia data from an external device **(fig.3c; col.9,**

ln.13-59; col.13, ln.44-50; col.21, ln.1-44 ESP col.9, ln.33-35, 50-52: visual display

and audio output); a touch data describing … expressed in the multimedia data

transmitted from the external device based on a predefined touch data descriptor

(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44 ESP col.9, ln.37-38, 52-53:

tactile output devices; wherein data descriptors necessary in order to output

something); an odor data describing means for describing an odor expressed in the

multimedia data received from the external device based on a predefined odor data

descriptor **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44 ESP col.9, ln.36, 57: olfactory output devices; wherein data descriptors necessary in order to output something)**; a taste data describing means for describing a taste expressed in the multimedia data received from the external device based on a predefined taste data descriptor **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44 ESP col.9, ln.36, 57: gustatory output devices; wherein data descriptors necessary in order to output something)**; a video/audio packet forming means for forming video/audio packets out of the video/audio data generated in the video/audio generating means **(fig.3c, 108; col.8, ln.65-col.9, ln.8: audio and video data must be packetized in order to be transported over the network from the remote host to the local host)**; a touch/odor/taste packet forming means for forming a touch packet, an odor packet, and a taste packet out of the touch, odor and taste data described in the touch data describing means, the odor data describing means, and the taste data describing means, respectively **(fig.3c, 108; col.8, ln.65-col.9, ln.8: touch, odor, and taste data must be packetized in order to be transported over the network from the remote host to the local host)**; a multiplexing means for multiplexing the video/audio packets generated in the video/audio packet generating means and at least one of the touch packet, the odor packet and the taste packet formed in the touch/odor/taste packet forming means **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-18: a server performs multiplexing and de-multiplexing of data)** ... a transmitting means for transmitting a multiplexed and synchronized packet obtained in the multiplexing means **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-18: a server performs multiplexing and de-**

multiplexing of data and transmits and receives data); a receiving means for receiving the multiplexed and synchronized packet **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-18: a server performs multiplexing and de-multiplexing of data and transmits and receives data)**; a demultiplexing means for demultiplexing the multiplexed and synchronized packet received by the receiving means into the video data, the audio data, the touch data, the odor data and the taste data **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-18: a server performs multiplexing and de-multiplexing of data)**.

18.　　　Konrad may not explicitly teach to thereby synchronize the video/audio packets with at least one of the touch/odor/taste packets, wherein the multiplexing means adds to at least one of the touch/odor/taste packets formed in the touch/odor/taste packet forming means to a plurality of video/audio packets generated in the video/audio generating means on a basis of the multimedia data frame to thereby multiplex and synchronize the video/audio packets with at least one of the touch/odor/taste packets. However, Serbanescu teaches synchronizing various output media, such as taste, odor, touch along with audio and video to have a rich, interactive multimedia experience having all the senses engaged **([0005, 0008, 0030, 0059-0061])**. In addition, Ro teaches a multiplexer synchronizing audio and video packets together in order to present the audio and video together **([0045, 0055, 0064])**. It would have been obvious to one of ordinary skill at the time of the invention to combine video/audio packets with touch/odor/taste packets as stated in the claim for the purposes of synchronizing the output of the video/audio and touch/odor/taste packets and present a seamless

multimedia experience so that all sense data appears at the time that they are

supposed to. Ro teaches that this has been done between video/audio packets and

Serbanescu teaches that it is desirable to do this with taste/odor/touch data as well. It

would have been obvious to combine Ro and Serbanescu with Konrad because Konrad

suggests video, audio, touch, odor, taste data presented to a user for an interactive

multimedia experience and Ro and Serbanescu together suggest video, audio, touch,

odor, taste data multiplexed and synchronized together to present a seamless

multimedia experience.

19.   Konrad may not explicitly teach a video device for decoding and outputting the

video data demultiplexed by the demultiplexing means; an audio device for decoding

and outputting the audio data demultiplexed by the demultiplexing means. However,

Shibata teaches a video device for decoding and outputting the video data

demultiplexed by the demultiplexing means **(col.3, ln.58 – col.4, ln.12: audio and

video decoder and de-multiplexer for output)**; an audio device for decoding and

outputting the audio data demultiplexed by the demultiplexing means **(col.3, ln.58 –

col.4, ln.12: audio and video decoder and de-multiplexer for output)**.

20.   Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement the teachings of Shibata into Konrad since Konrad

suggests a human interface service that receives and outputs audio and video data

**(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44 ESP col.9, ln.33-35, 50-52:

visual display and audio output)** in general and Shibata suggests decoding and de-

multiplexing audio and video data, the motivation being to play audio and display video

for a video conference call **(col.3, ln.58 – col.4, ln.12)**.

21.   Konrad may not explicitly teach a vibration device for providing vibration to a user

by interpreting the touch data demultiplexed by the demultiplexing means. However,

Tremblay teaches a vibration device for providing vibration to a user by interpreting the

touch data demultiplexed by the demultiplexing means **(col.1, ln.15-39; col.2, ln.14-33:**

vibration from tactile information).

22.   Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement the teachings of Tremblay into Konrad since Konrad

suggests a human interface service receiving and demultiplexing tactile data and

outputting through a tactile output device **(col.9, ln.29-59)** in general and Tremblay

suggests a tactile output device producing vibrations, the motivation being to provide a

virtual reality experience for the user **(col.1, ln.15-39, 40-52; col.2, ln.14-33)**.

23.   Konrad may not explicitly teach an odor device for spraying chemical aromatics

to a user by interpreting the odor data demultiplexed by the demultiplexing means.

However, Wittek teaches an odor device for spraying chemical aromatics to a user by

interpreting the odor data demultiplexed by the demultiplexing means; and **(col.2, ln.50-**

65; col.3, ln.33-45: scent control signal for spaying chemical aromas).

24.   Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement the teachings of Wittek into Konrad since Konrad

suggests a human interface service receiving and demultiplexing olfactory data and

outputting through an olfactory output device **(col.9, ln.57)** in general and Wittek

suggests a olfactory output device producing chemical aromatics, the motivation being to intensify visual and acoustic reception **(col.1, ln.22-25)**.

25.   Konrad may not explicitly teach and a taste device for releasing a taste forming material to a user by interpreting the taste data demultiplexed by the demultiplexing means. However, Rowan teaches a taste device for releasing a taste forming material to a user by interpreting the taste data demultiplexed by the demultiplexing means **(col.1, ln.14-33: chemical release mechanism for taste in order to enhance audio or visual stimuli)**.

26.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Rowan into Konrad since Konrad suggests a human interface service receiving gustatory data and outputting through a gustatory output device **(col.9, ln.39-40)** in general and Rowan suggests a gustatory output device releasing chemicals for taste, the motivation being to enhance audio and visual stimuli **(col.1, ln.14-33)**.

27.   **Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Konrad (US-5974444), Shibata (US-5402418), Tremblay (US-6275213), Wittek (US-5963302), Rowan (US-5341229), Serbanescu (US-20030162595), Ro (US-20020150123) as applied to claim 1 above, and further in view of Wan (US-20020054608).**

28.   As to claim 5: Konrad teaches the apparatus as recited in claim 1, wherein the touch/odor/taste packet forming means forms a touch packet including information on whether the touch data are described, … , and information on the touch data descriptors

described in the touch data describing means **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44: information packets describing touch)**; an odor packet including information on whether odor data are described, … , and information on the odor data descriptors described in the odor data describing means **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44: information packets describing odor)**; and a taste packet including information on whether taste data are described, … , and information on the taste data descriptors described in the taste data describing means **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21, ln.1-44: information packets describing taste)**.

29.   Konrad may not explicitly teach information on touch packet length … information on an odor packet length … information on a taste packet length.

30.   However, information describing the length of a packet is commonly known in the art. This is illustrated by Wan where a video / audio packet includes information with regards to packet length **([0014])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement packet lengths in odor, taste, and touch packets in order to know their start and ending point of the packets and to accurately process them.

31.   **Claim 2, 3, 4, 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Konrad (US-5974444), Shibata (US-5402418), Tremblay (US-6275213), Wittek (US-5963302), Rowan (US-5341229), Serbanescu (US-20030162595), Ro (US-20020150123) as applied to claim 1, 7 above, and further in view of Roy (US-20010036868), DiNunzio (US-6007338).**

32.   As to claim 2, 3, 4, 8: Konrad teaches the method as recited in claim 1, 7.

33.   Konrad may not explicitly teach wherein in the step b), the vibration expressed in the multimedia data transmitted from the external device is described based on a descriptor describing whether touch data are described; A descriptor describing whether right/left movement is described; a descriptor describing whether up/down movement is described; a descriptor describing whether back/forth movement is described.

34.   Roy teaches wherein in the step b), the vibration expressed in the multimedia data transmitted from the external device is described based on a descriptor describing whether touch data are described; A descriptor describing whether right/left movement is described **([0014], [0056]; claim 16: axial displacement for tilt)**; a descriptor describing whether up/down movement is described **([0048], [0051-0052], [0056]: raise and lower vertically)**; a descriptor describing whether back/forth movement is described **([0014], [0056]; claim 16: axial displacement for tilt)**.

35.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Roy into Konrad since Konrad suggests a human interface service where tactile data having descriptors is conveyed over a network and output through a tactile output device such as a pressure suit **(col.9, ln.53-54)** in general and Roy suggests a tactile output device having axial displacement for front / back, left / right tilt and a vertical up / down motion controlled by control signals, the motivation being to enhance an audiovisual experience, such as gaming or movies, with motion transducers **([0009-0011])**.

36.   Konrad, Roy may not explicitly teach a descriptor describing a distance of movement; a descriptor describing a speed of movement; a descriptor describing an acceleration of movement.

37.   However, Roy teaches control values for the actuators and the possibility of precisely controlling the mechanical movements transmitted to the chair adapter **([0014], [0056])**. It would have been obvious to one of skill in the art at the time of the invention to precisely control the motion transducers with regards to distance, speed, and acceleration in order to customize the vertical and axial motions and not be limited to a single setting with regards to distance, speed, and acceleration. This allows the motion transducers to be customized to a plethora of situations, from the quick vibrating hum of aircraft to the slow rolling waves of the ocean rather than being confined to a single setting.

38.   Konrad, Roy may not explicitly teach a descriptor describing whether right/left rotation is described; a descriptor describing an angle of right/left rotation; a descriptor describing a speed of right/left rotation; a descriptor describing an acceleration of right/left rotation.

39.   DiNunzio teaches a descriptor describing whether right/left rotation is described **(fig.4a, 4b; col.8, ln.48-67: yaw rotation around the z-axis)**; a descriptor describing an angle of right/left rotation **(fig.4a, 4b; col.8, ln.48-67: yaw rotation around the z-axis has degree of motion less than 90 degrees + / -).**

40.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of DiNunzio into Roy since Roy

suggests a tactile output device having axial displacement for front / back, left / right tilt and a vertical up / down motion with motion transducers controlled by control signals (**[0009-0011]**) in general and DiNunzio suggests a tactile output device having yaw, roll and pitch motions synchronized with audio and video the motivation being to provide for greater degrees of freedom and offer more motions with which to enhance an audiovisual experience (**fig.4a, 4b; col.8, ln.39-67; claim 2**).

41.   Konrad, DiNunzio may not explicitly teach a descriptor describing a speed of right/left rotation; a descriptor describing an acceleration of right/left rotation.

42.   However, DiNunzio teaches controlling the speed of the overall experience, make-up of the roller coaster track, and simulates the acceleration experienced by the user (**col.5, ln.1-8; col.6, ln.1-14; col.9, ln.1-23**). In order to simulate speed and acceleration around the roller coaster track, acceleration and speed control signals / descriptors for the motion transducers are necessary. It would have been obvious to one of ordinary skill in the art to implement speed and acceleration descriptors in DiNunzio in order to make feasible the custom design of roller coaster elements with loops and corkscrews of varying diameter and intensity and provide a varied experience as opposed to having the exact same speed and acceleration throughout the entire simulation.

43.   Konrad, Roy, DiNunzio may not explicitly teach the odor expressed in the multimedia data received from the external device is described based on a descriptor describing whether the odor data are described; a descriptor describing a kind of the odor; and a descriptor describing an intensity of the odor.

44.   Wittek teaches the odor expressed in the multimedia data received from the external device is described based on a descriptor describing whether the odor data are described; a descriptor describing a kind of the odor; and a descriptor describing an intensity of the odor **(col.3, ln.32-45: control signals indicating the type and intensity of the scent)**.

45.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Wittek into Konrad since Konrad suggests a human interface service multiplexing olfactory data having descriptors and output through an olfactory I/O device **(col.9, ln.57)** in general and Wittek suggests scent release mechanisms synchronized with audiovisual affects where control signals control the type and intensity of the scent, the motivation being to intensify and enrich the audiovisual experience **(col.1, ln.22-25)**.

46.   Konrad, Roy, DiNunzio, Wittek may not explicitly teach and, the taste expressed in the multimedia data received from the external device is described based on a descriptor describing whether the taste data are described; a descriptor describing a kind of the taste; and a descriptor describing an intensity of the taste.

47.   However, Konrad teaches a human interface service receiving multiplexed gustatory signals over a network for output to a gustatory I/O device **(col.9, ln.57)**. Wittek teaches control signals for controlling the type and intensity of the scent **(col.3, ln.32-45)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to use control signals similar to those of Wittek and apply them to the gustatory output of Konrad, the motivation being to intensify and enrich the audiovisual

experience with taste sensations and to be able to customize the taste sensations to different audiovisual situations presented **(Wittek, col.1, ln.22-25)**.

48.   **Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Konrad (US-5974444), Shibata (US-5402418), Tremblay (US-6275213), Wittek (US-5963302), Rowan (US-5341229), Serbanescu (US-20030162595), Ro (US-20020150123) as applied to claim 10 above, and further in view of Farmer (US-5907366).**

49.   As to claim 11: Konrad teaches the system as recited in claim 10.

50.   Konrad may not explicitly teach wherein the demultiplexing means deletes network-related information from the received packet in form of a compressed stream by depacketizing divides the depacketized packet into the video data, the audio data ... on a basis of a multimedia data frame, and transmits the video data, the audio data ... to corresponding devices based on header information.

51.   Farmer teaches wherein the demultiplexing means deletes network-related information from the received packet in form of a compressed stream by depacketizing **(col.9, ln.15-40: transport de-multiplexer separates signal and removes transport header information)** divides the depacketized packet into the video data, the audio data **(col.9, ln.15-40: transport de-multiplexer separates signal into audio and video data)**, ... on a basis of a multimedia data frame **(col.9, ln.15-40: MPEG frame)**, and transmits the video data, the audio data **(col.9, ln.15-40: audio / video payload**

routed to storage), … to corresponding devices based on header information **(col.9,**

ln.15-40: header information indicates type of payload).

52.   Farmer may not explicitly teach divides the depacketized packet into … the touch

data, the odor data and the taste data on a basis of a multimedia data frame, and

transmits the … touch data, the odor data and the taste data to corresponding devices

based on header information.

53.   However, Konrad teaches the multiplexing and de-multiplexing of audio, video,

touch, smell, and taste information **(fig.3c; col.9, ln.13-59; col.13, ln.44-50; col.21,**

ln.1-44) and Farmer teaches all in the above paragraph with regards to audio and video

packets. It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Farmer and Konrad and implement the de-multiplexing, de-

packetization and transmission of touch, odor, and taste data based on the header in

order to separate the different payloads and process them with the appropriate output

devices and create an interactive multimedia experience involving all of the senses.

54.   Claim 12, 13, 14 rejected under 35 U.S.C. 103(a) as being unpatentable over

Konrad (US-5974444), Shibata (US-5402418), Tremblay (US-6275213), Wittek (US-

5963302), Rowan (US-5341229), Serbanescu (US-20030162595), Ro (US-

20020150123) as applied to claim 10 above, and further in view of Roy (US-

20010036868).

55.   As to claim 12: Konrad teaches the system as recited in claim 10, … which are demultiplexed in the demultiplexing means **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-18: a server performs multiplexing and de-multiplexing of data)**, based on a predefined touch data descriptor **(col.9, ln.80: tactile output devices; wherein touch data descriptors necessary for proper functionality)**.

56.   Konrad may not explicitly teach wherein the vibration device moves to right and left, back and forth, and up and down or rotates by interpreting the touch data, … and a starting time and a duration time of movement or rotation operation.

57.   Roy teaches wherein the vibration device moves to right and left, back and forth **([0014], [0056]; claim 16: axial displacement for tilt)**, and up and down or rotates by interpreting the touch data **([0048], [0051-0052], [0056]: raise and lower vertically)**, … and a starting time and a duration time of movement or rotation operation **([0042]: start and duration time for transducer action)**.

58.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Roy into Konrad since Konrad suggests a human interface service where tactile data having descriptors is conveyed over a network and output through a tactile output device such as a pressure suit **(col.9, ln.53-54)** in general and Roy suggests a tactile output device having axial displacement for front / back, left / right tilt and a vertical up / down motion controlled by control signals, the motivation being to enhance an audiovisual experience, such as gaming or movies, with motion transducers **([0009-0011])**.

59.   Konrad, Roy may not explicitly teach are synchronized with a moving picture and

a sound outputted from the video device and the audio device, respectively **([0005],**

[0008], [0030], [0059-0061]). However, Serbanescu teaches synchronizing various

output media, such as taste, odor, touch along with audio and video **([0005], [0008],**

[0030], [0059-0061]). Serabanescu may not explicitly teach that the packets

themselves are synchronized. However, it is common knowledge in the art that

synchronization of packets is a technique for having output media match-up for

presentation. This is illustrated by Ro who teaches audio and video packets

synchronized together in order to present the audio and video together **(Ro; [0045],**

[0055], [0064]).

60.   Thus, it would have been obvious to one of ordinary skill in the art to implement

the teachings of Serabanescu into Konrad since Konrad teaches a human interface

service outputting audio, video, taste, smell, and touch information to a user **(col.9,**

ln.13-59; col.13, ln.44-50; col.21, ln.1-44) and Serabanescu suggests synchronization

between audio, video, taste, smell, and touch in order to present an interactive media

experience **([0005], [0008], [0030], [0059-0061])**.

61.   As to claim 13: Konrad teaches the system as recited in claim 12, ... which are

demultiplexed in the demultiplexing means **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-**

18: a server performs multiplexing and de-multiplexing of data), based on a

predetermined odor data descriptor **(col.9, ln.57: olfactory output devices; wherein**

olfactory data descriptors necessary for proper functionality).

62.   Konrad may not explicitly teach wherein the odor device sprays the chemical

aromatics by interpreting the odor data … and a starting time and a duration time of

spraying operation are synchronized with a moving picture and a sound outputted from

the video device and the audio device, respectively.

63.   Wittek teaches wherein the odor device sprays the chemical aromatics by

interpreting the odor data **(col.2, ln.50-65; col.3, ln.33-45: scent control signal for**

spaying chemical aromas) … and a starting time and a duration time of spraying

operation are synchronized with a moving picture and a sound outputted from the video

device and the audio device, respectively **(col.14, 5-59: scent entrance and duration**

is synchronized with movie).

64.   Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement the teachings of Wittek into Konrad since Konrad

suggests a human interface service multiplexing olfactory data having descriptors and

output through an olfactory I/O device **(col.9, ln.57)** in general and Wittek suggests

scent release mechanisms synchronized with audiovisual affects where control signals

control the type and intensity of the scent, the motivation being to intensify and enrich

the audiovisual experience **(col.1, ln.22-25).**

65.   As to claim 14: Konrad teaches the system as recited in claim 13, … which are

demultiplexed in the demultiplexing means **(fig.3c; col.7, ln.16-19, 39-45; col.10, ln.12-**

18: a server performs multiplexing and de-multiplexing of data), based on a

predetermined taste data descriptor **(col.9, ln.57: gustatory output devices; wherein gustatory data descriptors necessary for proper functionality)**.

66.   Konrad may not explicitly teach wherein the taste device releases taste forming materials by interpreting the taste data, … and a starting time and a duration time of releasing operation are synchronized with a moving picture and a sound outputted from the video device and the audio device, respectively.

67.   Rowan teaches wherein the taste device releases taste forming materials by interpreting the taste data **(col.1, ln.14-33: chemical release mechanism for taste in order to enhance audio or visual stimuli)**, … and a starting time and a duration time of releasing operation are synchronized with a moving picture and a sound outputted from the video device and the audio device, respectively **(col.1, ln.14-33: chemical release mechanism synchronized with audiovisual presentation)**.

68.   Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Rowan into Konrad since Konrad suggests a human interface service receiving gustatory data and outputting through a gustatory output device **(col.9, ln.39-40)** in general and Rowan suggests a gustatory output device releasing chemicals for taste, the motivation being to enhance audio and visual stimuli **(col.1, ln.14-33)**.

69.   *Conclusion*

70.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to ANDREW OH whose telephone number is (571)270-
5273. The examiner can normally be reached on M-F   8:30AM - 5AM EST.

71.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Daniel J. Ryman can be reached on (571)272-3152. The fax phone number
for the organization where this application or proceeding is assigned is 571-273-8300.

72.   Information regarding the status of an application may be obtained from the
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Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

73.   74.

75.   /A. O./

76.   Examiner, Art Unit 2419

77.   /Daniel J. Ryman/

78.   Supervisory Patent Examiner, Art Unit 2419